

WHAT IS CLAIMED IS:

1. A monitoring system for a pressure relief device, comprising:  
a release sensor configured to provide an indication when the pressure relief device activates;  
a transmitter connected to the release sensor and configured to send a wireless transmission having an activation signal when the indication is provided by the release sensor; and  
a receiver configured to receive the wireless transmission from the transmitter and to generate a warning signal when the activation signal is identified.
2. The system of claim 1, further comprising an annunciator in communication with the receiver and configured to provide an alert when the receiver generates the warning signal.
3. The system of claim 2, wherein the annunciator includes a display monitor.
4. The system of claim 2, wherein the annunciator includes a pager.
5. The system of claim 2, wherein the annunciator includes a light emitting diode.
6. The system of claim 1, wherein the release sensor includes a wire configured to be broken when the pressure relief device activates.

7. The system of claim 1, wherein the wireless transmission sent by the transmitter includes a status signal when a first predetermined period of time elapses without the release sensor providing the indication.
8. The system of claim 7, wherein the transmitter includes a battery and the status signal includes a representation of the battery voltage.
9. The system of claim 7, wherein the release sensor includes a battery and the status signal includes a representation of the battery voltage.
10. The system of claim 7, wherein the receiver generates the warning signal when a second predetermined period of time passes without the receiver receiving the wireless transmission from the transmitter.
11. The system of claim 1, wherein the transmitter sends a series of wireless transmissions having the activation signal upon receipt of the indication from the release sensor.
12. The system of claim 1, wherein the transmitter and receiver are configured for two-way communication.
13. A monitoring system for a pressurized system, comprising:  
a pressure relief device;

a release sensor configured to provide an indication when the pressure relief device activates;

a transmitter connected to the release sensor and configured to send a wireless transmission having an activation signal when the indication is provided by the release sensor; and

a receiver configured to receive the wireless transmission from the transmitter and to generate a warning signal when the activation signal is identified.

14. The system of claim 13, further comprising an annunciator in communication with the receiver and configured to provide an alert when the receiver generates the warning signal.

15. The system of claim 14, wherein the annunciator includes a display monitor.

16. The system of claim 14, wherein the annunciator includes a pager.

17. The system of claim 14, wherein the annunciator includes a light emitting diode.

18. The system of claim 13, wherein the release sensor includes a wire configured to be broken when the pressure relief device activates.

19. The system of claim 13, wherein the wireless transmission sent by the transmitter includes a status signal when a first predetermined period of time elapses without the release sensor providing the indication.

20. The system of claim 19, wherein the transmitter includes a battery and the status signal includes a representation of the battery voltage.

21. The system of claim 19, wherein the release sensor includes a battery and the status signal includes a representation of the battery voltage.

22. The system of claim 19, wherein the receiver generates the warning signal when a second predetermined period of time passes without the receiver receiving the wireless transmission from the transmitter.

23. The system of claim 13, wherein the transmitter sends a series of wireless transmissions having the activation signal upon receipt of the indication from the release sensor.

24. The system of claim 13, further comprising a plurality of pressure relief devices and a plurality of transmitters, one of the plurality of transmitters corresponding to each of the plurality of pressure relief devices.

25. The system of claim 24, wherein the pressure relief device is selected from the group consisting of rupture disks, pressure relief valves, explosion panels, and control valves.

26. A method of monitoring a pressure relief device, comprising the steps of:

providing an indication when a pressure relief device activates;  
sending a wireless transmission when the indication is provided, the wireless transmission including an activation signal;  
receiving the wireless transmission; and  
generating a warning signal when the activation signal is identified.

27. The method of claim 26, further including the step of displaying a warning message on a display monitor.

28. The method of claim 26, further including the step of activating a light emitting diode when the warning signal is generated.

29. The method of claim 26, further including the step of activating a remote paging device when the warning signal is generated.

30. The method of claim 26, further comprising the step of sending a wireless transmission having a status signal on a periodic basis.

31. The method of claim 30, further comprising the step of generating the warning signal when a predetermined amount of time passes without receiving a wireless transmission from the transmitter.

32. The method of claim 26, further comprising the step of sending a series of wireless transmissions having the activation signal upon receiving the indication from the release sensor.

33. A monitoring system for a pressurized system, comprising:

a pressure relief device;

a release sensor configured to provide an indication when the pressure relief device activates;

a transmitter connected to the release sensor and configured to send a wireless transmission having a status signal when a first predetermined period of time elapses without the release sensor providing the indication; and

a receiver configured to receive the wireless transmission from the transmitter.

34. The system of claim 33, wherein the status signal includes information regarding the status of the pressure relief device.

35. The system of claim 34, wherein the release sensor includes a power source and the information in the status signal includes the status of the power source.

36. The system of claim 33, wherein the transmitter is configured to send a wireless transmission having an activation signal when the indication is provided by the release sensor.

37. The system of claim 36, wherein the receiver is configured to generate a warning when signal when the activation signal is identified.

38. The system of claim 33, wherein the receiver is configured to generate a warning when a second predetermined period of time passes without the receiver receiving the wireless transmission from the transmitter.

39. The system of claim 33, wherein the transmitter and receiver are configured for two-way communication.

40. A monitoring system for a pressurized system, comprising:

a pressure relief device;

a release sensor configured to provide an indication when the pressure relief device activates;

a transmitter connected to the release sensor and configured to send a wireless transmission having an activation signal when the indication is provided by the release sensor, the activation signal including an identity and location for the activated pressure relief device; and

a receiver configured to receive the wireless transmission from the transmitter and to generate a warning signal when the activation signal is identified.

41. The system of claim 40, further comprising an annunciator in communication with the receiver and configured to provide an alert when the receiver generates the warning signal.

42. The system of claim 40, wherein the wireless transmission sent by the transmitter includes a status signal when a first predetermined period of time elapses without the release sensor providing the indication.

43. The system of claim 42, wherein the release sensor includes a battery and the status signal includes a representation of the battery voltage.

44. The system of claim 42, wherein the release sensor includes a battery and the status signal includes a representation of the battery life remaining.

45. The system of claim 42, wherein the receiver generates the warning signal when a second predetermined period of time passes without the receiver receiving the wireless transmission from the transmitter.

46. A monitoring system for a pressurized system, comprising:

a pressure relief device;

a release sensor configured to provide an indication when the pressure relief device activates;

a transmitter connected to the release sensor and configured to send a wireless transmission having an identifying prefix that uniquely identifies the wireless transmission as being generated by the transmitter; and

a receiver configured to receive the wireless transmission from the transmitter.



47. The system of claim 46, wherein the wireless transmission includes an activation signal when the release sensor provides the indication and the wireless transmission includes a status signal when a predetermined period of time passes without the release sensor providing the indication.

48. The system of claim 47, further comprising an annunciator in communication with the receiver and configured to provide an alert when the receiver generates the warning signal.

49. The system of claim 47, wherein the receiver generates the warning signal when a second predetermined period of time passes without the receiver receiving the wireless transmission from the transmitter.

50. A monitoring system for a pressurized system, comprising:

a pressure relief device;

a release sensor configured to provide an indication when the pressure relief device activates;

a transmitter connected to the release sensor and configured to send a wireless transmission having an activation signal when the indication is provided by the release sensor; and

an annunciator in communication with the transmitter and configured to provide an alert when the wireless transmission having the activation signal is received.

51. The system of claim 50, wherein the annunciator includes a display monitor.

52. The system of claim 50, wherein the annunciator includes a pager.
53. The system of claim 50, wherein the annunciator includes a light emitting diode.

LAW OFFICES

FINNEGAN, HENDERSON,  
FARABOW, GARRETT,  
& DUNNER, L.L.P.  
1300 I STREET, N. W.  
WASHINGTON, DC 20005  
202-408-4000